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### **Simulation Interoperability using the Synthetic Common Operating Environment in Simulation Based Acquisition**

This paper describes the Synthetic Common Operating Environment (SCOE) software system which enables Simulation Based Acquisition for future combat systems. The paper discusses how the SCOE system allows the user to reconfigure currently existing entities, prototype new entities, develop conceptual components and attach them to entities, build Computer Generated Forces, plan experiments, attach composable behaviors and analyze these new entities in large scale battlefield simulations, and collect experiment data for Run time and After-Action-Review on either a Distributed Interactive Simulation (DIS) network or a High Level Architecture (HLA) network. The paper will also discuss how the current SCOE software system interoperates with both the IDEEAS and OTB simulations but is easily configurable to enable other simulations to take advantage of the SCOE concept